

WHAT IS CLAIMED IS:

1. A device for collecting and preserving nucleic acids in a sample, the device comprising:

a) a support comprising a top surface, an opposing bottom surface, and a lateral edge surrounding the top surface and the bottom surface;

b) one or more than one sample zone in the support for loading the sample onto the device; and

c) a composition comprising i) one or more than one absorbent, and ii) one or more than one stabilizer;

where the one or more than one sample zone on the support comprises a recess or space within the support extending from the top surface toward, but not through, the bottom surface, or comprises a space within the support extending from the top surface completely through the bottom surface; and

where the composition is retained within the sample zone.

2. The device of claim 1, where the support comprises a hydrophobic material.

3. The device of claim 1, where the support comprises a material selected from the group consisting of plasticized cardboard, polyacetate, polycarbonate and polypropylene.

4. The device of claim 1, further comprising a shape selected from the group consisting of an oval, a circle, a rectangle, a rectangle with rounded corners, a square, a square with rounded corners, a triangle and a triangle with rounded corners.

5. The device of claim 1, where the one or more than one sample zone comprises a plurality of sample zones comprising between 2 and 1000 sample zones.

6. The device of claim 1, where the one or more than one sample zone comprises a plurality of sample zones comprising between 2 and 500 sample zones.

7. The device of claim 1, where the one or more than one sample zone comprises a plurality of sample zones comprising between 20 and 200 sample zones.

8. The device of claim 1, where the device comprises a plurality of sample zones, and the shape of each sample zone is identical to every other sample zone.

9. The device of claim 1, where the device comprises a plurality of sample zones, and the shape of at least one sample zone is different that the shape of at least one other sample zone.

10. The device of claim 1, where the shape of at least one of the one or more than one sample zone, as viewed from the top surface, comprises a shape selected from the group consisting of an oval, a circle, a rectangle, a square and a triangle.

11. The device of claim 1, where the composition filling the one or more than one sample zone is in a solid state.

12. The device of claim 1, where the one or more than one absorbent comprises a polymeric material in either fibrous or particulate form.

5 13. The device of claim 1, where the one or more than one absorbent comprises a hydrophilic material.

14. The device of claim 1, where the absorbent consists of a single material.

15. The device of claim 1, where the absorbent comprises a plurality of materials.

16. The device of claim 1, where the one or more than one absorbent is selected from
10 the group consisting of carbon, cellulose acetate, cellulose beads, cellulose fibers, cellulose particles, dextran fibers, dextran particles, diatomaceous earth, hydroxyapatite, nitrocellulose, nylon, polyesters, polyethylene and silica.

17. The device of claim 1, where the one or more than one stabilizer comprises a substance selected from the group consisting of a dodecyl sulfate as its sodium, a lithium salt,
15 an anionic salt, a potassium salt, cetyl pyridinium hydrochloride, guanidinium hydrochloride, guanidinium thiocyanate, lithium sulphate and potassium sulphate.

18. The device of claim 1, where the stabilizer comprises a buffer selected from the group consisting of MOPS and TRIS.

19. The device of claim 1, where the stabilizer comprises an antioxidant selected from
20 the group consisting of ascorbic acid, disodium ethylene tetra acetic acid (Na_2 EDTA), dithithreitol, ethyl parabens and methyl parabens.

20. The device of claim 1, where the stabilizer comprises a substance that inhibits nucleases, such as for example ribonucleases, where the substance is selected from the group consisting of aurine tricarboxylic acid, one or more than one guanidinium salts, placental
25 ribonuclease inhibitor and vandydyl complexes.

21. The device of claim 1, where the composition further comprises an additive selected from the group consisting of albumin, gelatin, polyvinyl alcohol, starch, sucrose, trihalose, polyacrylamide, and polyethylene glycol.

22. The device of claim 1, where the sample zones further comprise a depression in the
30 surface of each sample zone as viewed from the top surface.

23. The device of claim 1, further comprising a handle.

24. The device of claim 23, where the handle is a loop.

25. A method of making a device for collecting and preserving nucleic acids in a sample according to claim 1, the method comprising:

- a) providing the support;
- b) providing the one or more than one absorbent, and the one or more than one stabilizer; and
- c) filling the one or more than one sample zone in the support with the one or more than one absorbent and the one or more than one stabilizer by:
 - i) filling the one or more than one sample zone in the support with the one or more than one absorbent, and then applying the one or more than one stabilizer to the absorbent in each of the sample zones; or
 - ii) producing a composition comprising the one or more than one absorbent and the one or more than one stabilizer, and then filling the one or more than one sample zone in the support with the composition.

26. The method of claim 25, where the composition is produced by combining the one or more than one absorbent and the one or more than one stabilizer in an aqueous solution to produce a paste or slurry.

27. The method of claim 25, further comprising removing contaminating nucleic acids from the one or more than one absorbent and one or more than one stabilizer.

28. The method of claim 25, further comprising treating the absorbent with a wetting agent.

29. The method of claim 25, further comprising removing any excess absorbent, or excess composition on the device but not in a sample zone.

30. The method of claim 25, further comprising drying the absorbent or the composition in the one or more than one sample zone.

31. A method for collecting and preserving nucleic acids in a sample, the method comprising:

- a) providing a device of claim 1;
- b) providing a sample potentially comprising one or more than one nucleic acid; and
- c) applying part or all of the sample to one or more than one of the sample zones on the device.

32. The method of claim 31, where the sample is a biological sample.

33. The method of claim 32, where the sample is selected from the group consisting of a cell culture, a cell suspension, biopsy aspirates, bone marrow, cerebrospinal fluid, potable water, plasma, serum, urine and whole blood.

34. The method of claim 31, where the nucleic acids in the sample are selected from the group consisting DNA and RNA.

35. The method of claim 31, where the nucleic acids in the sample are selected from the group consisting of mRNA, miRNA and mitochondrial RNA.

36. The method of claim 31, where the nucleic acids in the sample are selected from the group consisting of genomic DNA and mitochondrial DNA.

5 37. The method of claim 31, where the sample provided is from a eukaryote.

38. The method of claim 31, where the sample provided is from a primate.

39. The method of claim 31, where the sample provided is from a human.

40. The method of claim 31, further comprising drying the applied sample.

41. The method of claim 31, where the device provided comprises depressions in the
10 sample zones, and applying the sample to the one or more than one sample zones comprises applying a predetermined amount of sample based on the volume of the depression.

42. The method of claim 31, further comprising collecting the sample into a vessel before applying the sample to the one or more than one sample zones.

43. The method of claim 31, further comprising storing the device for a time between 1
15 minute and 10 years.

44. The method of claim 31, further comprising storing the device for a time between 1 day and 1 years.

45. The method of claim 31, further comprising storing the device for a time between 1 day and 100 days.

20 46. The method of claim 31, further comprising sealing the device in a protective container before being stored.

47. A method of detecting and quantifying nucleic acids in a sample, the method comprising:

25 a) collecting and preserving nucleic acids in the sample according to the method of claim 30;

b) removing the absorbent with sample from the sample zones of the device; and

c) detecting, or detecting and quantifying the nucleic acids.

48. The method of claim 47, where detecting, or detecting and quantifying the nucleic acids comprises performing a technique selected from the group consisting of PCR, RT-PCR,
30 and quantitative RT-PCR.